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NATIONAL EVALUATION DATA SERVICES

TREATMENT ACCESS AND SERVICE UTILIZATION BY CLIENTS IN THE SUBSTANCE ABUSE AND MENTAL HEALTH TREATMENT SYSTEMS

September 2002

CSAT
Center for Substance Abuse Treatment
SAMHSA

Research and Information Systems
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September 2002

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FOREWORD

The mission of the Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration (SAMHSA), is to improve the lives of individuals and families affected by alcohol and drug abuse by ensuring access to clinically sound, cost-effective addiction treatment that reduces the health and social costs to our communities and the nation. As part of its mission, CSAT supports the development of innovative treatment approaches, based on sound data and state-of-the-art analyses, and disseminates information on treatment approaches shown to be effective for curbing addiction and related behaviors.

In 1997, CSAT established the National Evaluation Data Services (NEDS) contract to support the CSAT mission. In 2000, through a new contract (Contract No. 270-00-7078), CSAT continued and expanded the scope of NEDS. NEDS activities help to foster collaboration and partnering among the public and private sectors along the Federal-state-local community-based treatment continuum. The three major activities of NEDS, under the current contract, are to assist in developing data infrastructure vehicles and tools, to perform treatment services secondary analyses on existing data, and to support the Government Performance Results Act (GPRA) activities. NEDS, through its Secondary Analysis Technical Reports, provides evidence-based information on substance abuse treatment issues relevant to treatment needs, access, utilization, efficacy, effectiveness, and efficiency. NEDS analyses focus on treatment needs, services received, and populations of interest to the substance abuse treatment field in order to provide new information about which services yield the best outcomes for what types of clients, at what cost. This information helps address treatment issues such as the treatment gap, culturally competent treatment services, and recovery.

The current analysis was undertaken by the New Jersey Division of Addiction Services (DAS) to examine the convergence of New Jersey's parallel systems for mental health and addiction treatment. While many clients treated in public mental health and substance abuse agencies have co-occurring disorders, differences in treatment process and interventions, have been considerable barriers to integration of the two systems. The lack of integration of the two systems presents serious challenges for the treatment of clients with co-occurring disorders, who often require the specialized expertise available in both systems of care. Using data from the Alcohol and Drug Abuse Data System (ADADS) maintained by New Jersey's Division of Addiction Services and the Uniform Services Transaction Form (USTF) maintained by New Jersey's Department of Human Services, Division of Mental Health Services (DMHS), the study

sought to describe and compare characteristics of clients seeking services in the mental health and addiction treatment systems, identify the magnitude of co-occurring addiction and mental health disorders in these populations, and evaluate the extent to which such clients are receiving appropriate care.

Patrick J. Coleman
Project Director
National Evaluation Data Services (NEDS)

ACKNOWLEDGMENTS

ABSTRACT

Although public mental health and substance abuse treatment agencies often serve the same clients, the barriers to treatment integration are considerable. The New Jersey Division of Addiction Services (DAS) examined the state's parallel system. Specifically, it examined 1) the magnitude of co-occurring disorders among clients in each treatment system, 2) socio-demographic characteristics of mental health only clients, substance abuse only clients and clients with co-occurring disorders, 3) service utilization patterns of the three groups, 4) the extent that co-occurring disorders were appropriately identified, and 5) the extent that clients with co-occurring disorders were referred across treatment systems. The Division of Addiction Services sampled the combined 1994-1997 administrative records of the Alcohol and Drug Abuse Data System and the Uniform Services Transaction Form of the New Jersey Division of Mental Health. Over half of all clients were white. More than a third had co-occurring disorders. Substance abuse only clients and clients with co-occurring disorders were more likely than mental health clients to be male and to be over age 21. Mental health providers were more likely than substance abuse providers to identify clients with co-occurring disorders but were less likely to refer them to substance abuse treatment. Clients with co-occurring disorders were less likely than others to enter intensive services, and they had shorter stays and more re-admissions, accounting for 92 percent of all re-admissions to both systems in a 24-month period. State policymakers might reduce societal costs by encouraging treatment providers to improve screening, assessment, and treatment planning for clients with co-occurring disorders. Future analysis of the clinical profiles and treatment utilization patterns of clients with co-occurring disorders would further inform the development of cost-effective interventions for this population.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

1.   PURPOSE

The identification and treatment of co-occurring mental health and substance abuse problems present complex challenges for clinicians, administrators, policymakers, insurers, and researchers/evaluators. Many factors contribute to the complexities associated with treating individuals with co-occurring disorders. These factors include the societal stigma attached to both substance abuse and mental health problems and the convergence of two distinct therapeutic disciplines, each having different treatment philosophies, services and academic preparation. Combined with the lack of parity in both private and public funding for mental health and substance abuse services, these factors have contributed to the development of parallel systems of service delivery.

The lack of integration of the two systems presents serious challenges for the treatment of clients with co-occurring disorders, who often require the specialized expertise available in both systems of care. The New Jersey Division of Addiction Services (DAS) examined the state's parallel systems for mental health and substance abuse treatment, with a focus on the following five areas: 1) the magnitude of co-occurring disorders among clients in each treatment system, 2) the socio-demographic characteristics of mental health only clients, substance abuse only clients, and clients with co-occurring disorders, 3) the differences among the groups with respect to service utilization patterns, 4) the extent that co-occurring disorders are appropriately identified, and 5) the extent to which clients who have co-occurring disorders are successfully referred across treatment systems.

2.   METHODS

To perform the analysis, DAS staff utilized the Alcohol and Drug Abuse Data System (ADADS), maintained by DAS, and the Uniform Services Transaction Form (USTF), maintained by the Division of Mental Health Services (DMHS). The sample contained integrated data elements obtained from ADADS and USTF between 1994 and 1997. The resulting file was used to identify three groups of clients: mental health only (MHO), substance abuse treatment only (STO), and clients with co-occurring disorders. Bivariate analyses were undertaken to compare the three client groups on demographic and other key variables and to examine trends in problem identification, service utilization patterns, and the referral of clients across the two treatment systems.

3.   FINDINGS

Substance abuse treatment only (STO) clients and clients with co-occurring disorders were predominantly male (76% and 58%, respectively), while more than half of mental health

only (MHO) clients were female (59%). MHO clients were more likely to be under age 21 (29%) than STO clients (11%) and clients with co-occurring disorders (18%). More than half of clients in all three groups were white (59% of MHO clients, 51% of STO clients, and 57% of clients with co-occurring disorders). STO clients were more likely to be employed full-time (37%) than MHO clients (22%) or clients with co-occurring disorders (19%).

More than a third (41%) of clients were found to have a co-occurring disorder. Of that group, more than half (53%) had no indication of a co-occurring disorder in their administrative record, but were identified only because they had an admission to both systems within the same 12-month period. The identification of co-occurring disorders was substantially better in the mental health than in the substance abuse treatment system. Mental health providers identified 57 percent of clients with co-occurring disorders; substance abuse treatment providers identified 23 percent. By type of treatment, screening centers had the highest rate of co-occurring disorder identification of all treatment settings (57%), and hospitals the lowest (31%).

Only 8 percent of all clients with co-occurring disorders and 17 percent of those identified in their records as having co-occurring disorders received a referral for services in the substance abuse treatment system. Although mental health providers identified substantially more clients with co-occurring disorders than substance abuse treatment providers, they were less likely to refer clients identified as having co-occurring disorders for substance abuse treatment.

Substance abuse treatment providers referred 57 percent of clients identified as having co-occurring disorders for mental health treatment, while mental health providers referred only 11 percent of clients identified as having co-occurring disorders for substance abuse treatment. Screening centers, which had the highest rate of identification of clients with co-occurring disorders of all treatment settings, referred only 16 percent of identified clients for substance abuse treatment.

Although clients with co-occurring disorders had more complex problems than STO and MHO clients, they entered less-intensive types of treatment and had shorter lengths of stay than STO and MHO clients. STO clients were the most likely of the three groups to enter intensive services:

■ One-third (35%) of STO clients entered hospital or residential treatment, compared to 19 percent of clients with co-occurring disorders and 3 percent of MHO clients.

■ About one in ten (12%) STO clients entered partial care (providing several hours of daily care as an alternative to hospitalization) or intensive outpatient programs (providing a minimum of 3 hours of service three or more times per week), compared to 3 percent of MHO clients and 6 percent of clients with co-occurring disorders.

At the same time, of the three groups, MHO clients had the longest lengths of stay (LOS) in all treatment types, with a median LOS of:

■ 18 days in hospital treatment vs. 4 for clients with co-occurring disorders and 3 for STO clients.

■ 255 days in residential treatment vs. 20 for clients with co-occurring disorders and 21 for STO.

■ 181 days in partial care vs. 78 for clients with co-occurring disorders and 70 for STO.

Although they received less intensive services than other clients, clients with co-occurring disorders had substantially more re-admissions to one or both systems in the 24 months after their index admission:

■ Half (50%) of clients with co-occurring disorders had at least one re-admission, compared to 7 percent of STO and 5 percent of MHO clients.

■ Clients with co-occurring disorders accounted for the majority (92%) of re-admissions to both systems during the 24 months following their index admission.

4. IMPLICATIONS

These findings have important implications for treatment providers, policymakers, and researchers/evaluators. States might encourage practitioners to be cognizant of the prevalence of co-occurring disorders in developing screening, assessment, and treatment planning strategies for clients with co-occurring disorders. State policymakers might consider the potential costs of inadequately identifying and treating clients with co-occurring disorders and adopt system-wide strategies to reduce re-admissions and promote more appropriate identification and placement. Finally, future analysis of the clinical profiles and treatment utilization patterns of clients with co-occurring disorders would further inform the development of cost-effective interventions for this population.

I. Introduction

I. INTRODUCTION

This chapter highlights the project overview and objectives. It also includes a review of relevant literature and describes the organization of this report.

1. PROJECT OVERVIEW

The identification and treatment of co-occurring mental health and substance abuse problems present complex challenges for clinicians, administrators, policymakers, insurers and researchers/evaluators. Many factors contribute to the complexities associated with treating clients with co-occurring disorders. Not the least of these factors, as will be further elaborated, is the convergence of two distinct disciplines that often employ contradictory treatment philosophies, processes, and interventions. These factors, combined with the lack of parity in both private and public funding for mental health and substance abuse treatment services, have contributed to the development of parallel systems of service delivery. The lack of integration of the two systems presents serious challenges for the treatment of clients with co-occurring disorders, who often require the specialized expertise available in both systems of care.

The New Jersey Division of Addiction Services (DAS) undertook this analysis to examine the convergence of New Jersey's parallel systems for mental health and substance abuse treatment. Using data from the Alcohol and Drug Abuse Data System (ADADS) maintained by New Jersey's Division of Addiction Services (DAS) and the Uniform Services Transaction Form (USTF) maintained by New Jersey's Department of Human Services, Division of Mental Health Services (DMHS), this analysis sought to describe and compare socio-demographic characteristics of clients seeking services in the mental health and substance abuse treatment systems, identify the magnitude of co-occurring disorders in these populations, and evaluate the extent to which such clients are receiving appropriate care.

Individuals identified as having a co-occurring disorder may have a variety of clinical profiles, ranging from those involving major mental illness, such as personality disorders, and substance-related symptoms (Sciacca & Thompson, 1996; Sciacca, 1991). It is beyond the scope of this analysis to develop precise clinical profiles of clients identified as having a co-occurring disorder, in part because of constraints in the level of clinical detail available in many of the administrative records used in the analysis. For this reason, the present analysis should be viewed as a preliminary exploration of the service delivery issues affecting dual-disorder clients, with acknowledgment of the need for more in-depth future analyses based on more precise definitions of clients' clinical status.

2. OBJECTIVES

To better inform treatment planning and resource allocation for clients with co-occurring disorders, this analysis sought to examine the following five questions:

- What is the magnitude of co-occurring disorders among clients treated in the mental health and substance abuse treatment systems?

- How do mental health only clients (MHO), substance abuse treatment only clients (STO), and clients with co-occurring disorders compare with respect to demographic characteristics and health coverage?

- How do the three groups of clients compare with respect to service utilization patterns?

- To what extent are co-occurring disorders appropriately identified in each treatment system?

- To what extent are clients who have co-occurring disorders referred across the two treatment systems for appropriate care, and what proportion of such referrals are successfully completed?

3. LITERATURE REVIEW

The identification and treatment of co-occurring mental health and substance abuse issues present many interesting and complex challenges for clinicians, administrators, policymakers, insurers, and researchers/evaluators. At the clinical level, co-occurring disorders, while very common, are known to complicate assessment and stabilization, making it difficult to determine the nature and extent of both the psychological and substance abuse problems and complicating the referral and treatment processes (Goldsmith, 1999; Batki, 1990). In many cases, counselors have not been trained to identify mental health issues in a substance using population, and vice-versa (Fine & Miller, 1993). Further, co-occurring disorders have been associated with poorer treatment outcomes, especially when the two conditions are treated independently, rather than concurrently (Barreira, Espey, Fishbein, Moran & Flannery, 2000; Dixon, 1999; Moggi, Ouimette, Finney & Moos, 1999).

Treatment of co-occurring mental health and substance abuse is further complicated by the convergence of two distinct disciplines that have differing treatment philosophies and orientations. Many substance abuse treatment models, for example, employ a "confrontational" approach aimed at breaking down the client's defenses of denial and resistance to treatment (Miller & Rollnick, 1991). Mental health and dual disorder models, in contrast, may employ

non-confrontational approaches that aim at sustaining the client's defenses (Sciacca, 1991). Similarly, mental health providers emphasize strong academic credentialing for therapeutic staff, while substance abuse models specifically incorporate non-academic paraprofessionals, many of whom are former clients, in a primary counseling role (Rohrer & Schonfeld, 1990). This contrasting approach derives from the value some substance abuse providers place on the potential insights brought to the therapeutic encounter by former clients with firsthand knowledge of substance abuse problems. In contrast, mental health models do not emphasize the need or value of personal experience of mental illness in the treatment of mental health problems.

Moreover, while it is clear that many clients treated in public mental health and substance abuse treatment agencies have co-occurring disorders, the greater societal stigma associated with substance abuse (Young & Grella, 1998) and the differences in treatment process and treatment interventions (Rohrer & Schonfeld, 1990) have been considerable barriers to system integration. Ultimately, the historical acrimony that arises from the differences between the mental health and substance abuse disciplines has been a cornerstone for both the development of parallel service delivery systems (Ridgely, Lamber, Goodman, Chichester, & Ralph, 1998) and a lack of parity in both private and public funding.

In the last decade, considerable efforts have been made to bridge the gap between mental health and substance abuse services through a variety of arrangements, including interagency coordination and integrated services. Although research suggests that integrated services are most effective in treating dual disordered clients (Drake & Mueser, 2000), few truly integrated services exist (Young & Grella, 1998). Even when such services exist, those most in need of them appear not to be accessing them. In their 1996 and 1998 surveys of households nationwide, Watkins, Burnam, Kung, & Paddock (2000) suggest that, while 3 percent of the population have co-occurring mental health and substance use disorders, only 8 percent of those in need of treatment actually receive services. Further, persons with co-occurring disorders access mental health care more than substance abuse services, and few (approximately 9%) of those who receive mental health services receive supplemental substance abuse treatment (Watkins et al.).

Similarly, a study (Coffey et al., 2001) of 1996 data from three states found that 4 percent of the population in participating states received treatment for mental health or substance abuse. Of these, 68 percent received mental health services, 21 percent received substance abuse services and 11 percent received both mental health and substance abuse services. Most treatment for mental health services only was funded only by Medicaid, while substance abuse treatment and most combined mental health/substance abuse treatment were funded primarily by the state agency. In their report of this study, the authors suggested that little is known about the

crossover in service utilization and funding in a parallel service delivery system with multiple agencies treating the same clients and multiple data systems collecting information on them. While the report does not argue for full integration of parallel systems, it does conclude that integration of databases is both feasible and useful in the evaluation of mental health and substance abuse services.

The analysis described in this report addressed the current gaps in our knowledge of the extent of crossover in treatment referral and service utilization in the mental health and substance abuse systems by analyzing an integrated database of New Jersey mental health and addiction treatment records. Using basic descriptive statistics, the analysis sought to answer the following five questions:

- What is the magnitude of co-occurring disorders among clients treated in the mental health and substance abuse treatment systems?

- How do mental health only clients (MHO), substance abuse treatment only clients (STO), and clients with co-occurring disorders compare with respect to demographic characteristics and health coverage?

- How do the three groups of clients compare with respect to service utilization patterns?

- To what extent are co-occurring disorders appropriately identified in each treatment system?

- To what extent are clients who have co-occurring disorders referred across treatment systems for appropriate care, and what proportion of such referrals are successfully completed?

4.   ORGANIZATION OF THIS REPORT

This report is organized in five major sections. Chapter I has provided an overview of the purpose and objectives of the analysis and a review of relevant literature. The methods used in the analysis are described in Chapter II, which also describes the origins and organization of the databases used and the data preparation activities, data linking procedures, data analytic techniques, and data constraints. Chapter III presents the analytic findings, including population profiles and answers to the five analytic questions presented above. Chapter IV summarizes the findings and discusses the implications of the analysis for treatment providers, policymakers, and researchers/evaluators. The report also includes appendices, which provide additional descriptions about the data preparation and present supplemental data for some of the exhibits.

II. METHODS

II. METHODS

This chapter presents the origins of the data set used in this analysis, including the steps taken to prepare the Alcohol and Drug Abuse Data System (ADADS) and the Uniform Services Transaction Form (USTF). It also describes the procedure used to link ADADS and USTF data sets, the analytic procedures, and constraints of the data.

1.   DATABASE ORIGINS AND ORGANIZATION

The two data sources used in this analysis are the Alcohol and Drug Abuse Data System (ADADS) maintained by New Jersey's Division of Addiction Services (DAS) and the Uniform Services Transaction Form (USTF) maintained by New Jersey's Division of Mental Health Services (DMHS). These two data sets were appropriate for the analysis because they are the primary sources of data on clients admitted to the substance abuse and mental health treatment systems in New Jersey.

Implemented July 1, 1991, ADADS collects information at both client admission and client discharge from the majority of substance abuse treatment agencies in New Jersey. ADADS mandates client-level data collection and reporting by all licensed drug or alcohol treatment providers, state- or county-funded treatment providers, and facilities approved by the Intoxicated Driver Resource Center. Many independent and privately funded providers also report voluntarily. Since 1991, approximately 225 agencies per year have reported to ADADS. On average, there have been 59,574 annual admissions (with a range of 48,229 to 65,862).

ADADS admission data include:

- Basic demographic information
- Treatment history
- Health coverage and expected treatment reimbursement source
- Information on substances used in the previous 6 months
- Frequency of use
- Route of administration
- Age of first use of client's primary, secondary and tertiary substance.

At discharge, ADADS collects information on the client's reason for discharge; total units of service received; significant problems or conditions identified during treatment, including mental health problems; referrals for further substance abuse or other supportive services, and

information about interim treatment outcomes, including goal achievement, in treatment services, current use of substances and current employment status. The structure and data elements of ADADS permit analyses that track clients' lengths of stay within treatment episodes as well as analyses of re-admissions within the same year and subsequent years.

The USTF is the principal data collection instrument used in DMHS's Client Registry System. This system is a confidential client registry for all state and county hospitals and community mental health agencies funded by the state or the Federal government. It was developed in 1978 through the concerted efforts of different task forces, groups, administrators, and service providers. DMHS introduced the USTF for general service by July 1981. Later, the USTF was revised and implemented in its final form on July 1, 1989. Between 1992 and 1998, approximately 161 agencies per year reported to DMHS using the USTF. On average, there were 212,450 annual admissions (with a range of 146,682 to 241,504).

The USTF admission data, like those in ADADS, include basic demographic information, treatment history, treatment reimbursement source, non-mental health needs, mental health treatment and service needs, level of functioning, primary presenting problems, admitting diagnoses, and handicapping conditions. The USTF treatment termination data provide information on circumstances at the time of treatment termination, mental health and non-mental health needs at termination, final diagnoses, level of client functioning, number of treatment sessions, and primary agency responsible for follow-up.

2.   DATA PREPARATION: USTF/ADADS

ADADS data were assembled from two archived sources and a currently active database. A data file was built that contained records of ADADS treatment clients from the first half of 1991 to 2001. Archival USTF data were assembled from 9 fiscal years (July 1991 to June 2000) and converted to a calendar-based system for consistency with the ADADS data set. Data from 1993 to 1999 were then selected from ADADS and USTF data sets for processing in this analysis. Staff at multiple agencies throughout the state report data for both systems. Little or no error checking is built into the data collection systems, which are paper-based. All variables in each data set were cleaned for incorrect data entry by setting the stray marks to missing.

All variables were labeled and categorical variables formatted following the data collection instruments. For data linkage purposes, a client identifier was created using three common fields: 1) caseno, a field that includes letters from the client's first and last name, 2) date of birth, and 3) gender. For purposes of the analysis, other comparable variables from each data set were combined, when possible, to create common data fields (e.g., common fields were

created for all key demographic variables as well as for variables relating to service utilization, such as treatment setting and reason for treatment termination). In addition, formats were created for all variables used in the data analysis and reporting.

3.   DATABASE LINKAGE PROCEDURE

The initial data used to draw the sample of mental health services and substance abuse treatment services admissions in the years 1993 through 1999 had 1,517,998 records in the mental health admissions file and 476,806 in the substance abuse admissions file. These data sets included all admissions for 1993 through 1999.

The selection of the index admission was made from a subset of these files limited to admissions in the years 1994 through 1997. The mental health services file had 938,775 records, and the substance abuse treatment file had 281,262 records. These files included a substantial number of duplicate admissions, defined as an admission for the same client on the same day. Duplicate records were eliminated by using a unique identifier consisting of the client identifier and the admission date (see Appendix A). After duplicate admissions were eliminated, the combined file of mental health services and substance abuse treatment admissions consisted of 784,239 admissions for 1994 through 1997. Distinct admissions for each client in the years 1994, 1995, 1996, and 1997 were also counted and attached to the client's corresponding index admission record.

An admission was selected at random from the 784,239 admissions, using FoxPro's random number generator function (see Appendix A). The final data set of index admissions contains 404,684 clients from both data systems. The distribution, by year of admission and data source, is shown in Exhibit II-1.

EXHIBIT II-1			
FINAL INDEX DATA SET: ADMISSIONS			
Year of Admission	Total Index Admissions	Mental Health Index Admissions	Substance Abuse Index Admissions
1994	103,334	66,819	36,515
1995	100,823	65,892	34,931
1996	99,330	65,205	34,125
1997	101,197	66,912	34,285
Total	404,684	264,828	139,856

One criterion used to determine whether a client had a co-occurring disorder was the identification of an admission to both treatment systems within a 12-month period. A search in

the data sets of both treatment systems for admissions within one year of the index admission date was completed, with queries on all admissions for the years 1993 through 1999. When an admission was found, the index admission record was coded to so indicate.

The index admission fields were completed by joining data fields from the USTF and ADADS data sets for the specific client and index admission date. Certain common fields, such as age at admission, gender, education, employment status, and gross annual income, were combined into one field, while fields specific to one system or the other remained separate fields. In the course of the data analysis, other fields common to both data sets were later recreated as single variables.

The analysis also called for examining treatment utilization patterns of all clients for two years subsequent to the index admission. Admissions within two years after the index admission date were selected by queries joining data from DMHS and ADADS with index admission cases based on clientid, admission date, and record source, creating a data set with all such admissions. Duplicates were dropped from the data set, and a sequential count field was added to the resulting data set, so that these admissions could be identified as admission 2 through n, the last admission in the data set.

Selected fields from the ADADS and USTF data sets were added to the subsequent admission data set. A total of 92,981 clients had at least one subsequent admission, and these admissions were then added to the data system from which the client records were originally generated. The same data fields were added for each subsequent admission. The fields are named to indicate the sequence of the admission dates, from 2 through 11. The index and subsequent admission data sets were then combined into a single data set.

4.   DATA ANALYSIS

The first step in our data analysis was to identify the following three groups of clients:

■   Mental Health Only (MHO): USTF clients with no indication of a substance abuse diagnosis or problem on their admission or discharge records and no matching records in ADADS within 12 months of the index admission

■   Substance Abuse Treatment Only (STO): USTF and ADADS clients with a substance abuse diagnosis only on their admission and discharge records and, for ADADS clients, no matching USTF records

■   Co-occurring Disorder: USTF clients with: (a) a substance abuse disorder as well as a mental health diagnosis identified in the index admission or discharge record and/or

(b) a matching record in ADADS within 12 months of the mental health index admission; and ADADS clients with: (a) a mental health problem identified on their index discharge record and/or (b) a matching record in USTF within 12 months of the index ADADS admission.

Several data fields on the ADADS and USTF admission and discharge records permit the identification of a co-occurring disorder. Three primary fields on the ADADS discharge form indicate the presence of a mental health disorder. One field indicates "mental health problem" as one of 13 possible significant problems identified at admission or during treatment. The other fields include an item indicating that the client was referred for mental health services at discharge and an item indicating that the client was discharged to a psychiatric hospital. ADADS clients for whom at least one of these fields was completed were considered to have a co-occurring mental health problem. It was originally intended to use a fourth field on the discharge form that allows clinicians to enter a non-substance abuse psychiatric DSM-IV diagnosis, but upon closer inspection we found this variable to be too unreliable for use.

The admission and discharge forms allow the recording of substance abuse as a primary or secondary diagnosis. In addition, each form allows identifying substance abuse services as a non-mental health service need. The discharge form identifies addiction treatment agencies as one of a number of possible agencies responsible for client follow-up. UTSF clients for whom at least one of these items was completed were considered to have a co-occurring disorder. The magnitude of co-occurring disorders in the population of addiction treatment and mental health clients was estimated by examining the frequency distributions of the three groups of clients.

Simple cross-tabular analysis was used to compare the three groups with respect to demographic characteristics, health insurance coverage, expected treatment reimbursement source, and treatment utilization patterns. Bivariate analysis examined the extent to which clients with co-occurring disorders were identified in each system and received appropriate services. Clients with co-occurring disorders were classified into one of three groups:

■ Those with both a co-occurring problem identified during their index admission and a record of treatment in both treatment systems within 12 months of the index admission

■ Those with a co-occurring disorder identified during their index admission and no record of treatment in the other treatment system

■ Those with no co-occurring disorder identified during the index admission but with a record of treatment in the other treatment system within 12 months of the index admission.

It was possible to compare the extent to which co-occurring disorders were identified in the ADADS and USTF systems by examining the proportion of individuals identified as having co-occurring disorders relative to the number who were identified as MHO and STO clients. The analysis also compared differences in problem identification and referral for services across the two treatment systems (mental health vs. substance abuse) and across treatment settings (e.g. hospitals, outpatient providers, screening centers).

5. DATA CONSTRAINTS

The data used in this analysis are subject to a number of constraints that should be kept in mind when interpreting the analytic findings. First, much of the present analysis depends on the accuracy of clinicians' record keeping and reporting practices. It is possible, moreover, that many clinicians identified clients as having a co-occurring disorder during the course of treatment but failed to note that fact in the records submitted to the state agency. Similarly, cross-system referrals may have been provided that were not noted in the state records. Further, discipline-based differences in clinicians' training and experience may have resulted in systematic bias in the accuracy of record keeping across systems. For example, the treatment system hires a greater proportion of paraprofessionals than does the mental health services system, with the result that addiction treatment staff may be less trained in clinical record keeping. Both these factors might account for the lower reporting of clients with co-occurring disorders by addiction treatment agencies as compared to mental health services agencies. At the same time, however, the fact that addiction treatment agencies reported substantially more cross-system referrals than the mental health services agencies would argue against the possibility of systematic differences in record keeping.

Similar problems are associated with the identification of clients with co-occurring disorders through the matching of treatment records. Factors such as data entry errors or clients' use of different last names will affect the accuracy of the data linking process. As a result, clients may have been admitted to both systems but not identified through our matching strategies. Similarly, it is possible that clients were admitted to providers who do not report to the ADADS or USTF systems, in which case they would also not have been identified in our analysis. This latter possibility, moreover, is likely to have affected more MHO and co-occurring disorders admissions than STO admissions. For example, studies by DAS of the completeness of its reporting system have revealed that the universe of providers reporting to ADADS is relatively complete, with the major exception of individual practitioners (who treat more mental health than substance abuse only clients) and hospitals (which would primarily provide detoxification services). If individual practitioners are also less likely to report to the

USTF system, this may have resulted in our underestimating the number of MHO and co-occurring disorders re-admissions.

Finally, as previously noted, the present analysis does not differentiate clients according to their specific clinical profiles. As a result, generalizations about the appropriateness of treatment utilization and referrals are limited by the lack of information about specific clinical need.

III. FINDINGS

III. FINDINGS

This chapter presents key findings of the analysis of the index data file. First, the population profiles of the population are presented. Then, analytic findings are presented in response to each of the analytic questions.

1. POPULATION PROFILES

The sample for this analysis consisted of 404,684 individuals having an index admission in either the mental health services or the substance abuse treatment system between 1994 and 1997. Of those admissions, 264,828 (65%) were in the mental health services system, and 139,856 (35%) were in the substance abuse treatment system.

As Exhibit III-1 indicates, the sample as a whole consisted primarily of adults between the ages of 21 and 64. Approximately 21 percent were under age 21, and only 5 percent were over age 64. Over half of the clients were male (56%) and non-Hispanic white (57%). Only 21 percent of clients were currently married, while 58 percent had never been married. Nearly equal proportions of clients had a 12th grade education (41%) or had not completed high school (40%), while only 19 percent had completed more than the 12th grade. Only 26 percent of clients reported full-time employment, with the majority (69%) unemployed or out of the labor force.

2. FINDINGS OF THE ANALYTIC QUESTIONS

The following findings are presented in response to the five analytic questions.

2.1 What Is the Magnitude of Co-occurring Disorders Among Clients Treated in the Mental Health Services and Substance Abuse Treatment Systems?

Approximately 41 percent of all clients (165,199) treated in the two systems between 1994 and 1997 were identified as having co-occurring disorders. About 22 percent of clients (89,040) were classified as substance abuse treatment only (STO) clients at the time of their index admission, and 37 percent of clients (150,445) were identified as mental health only (MHO) clients.

2.2   How Do Mental Health Only Clients, Substance Abuse Treatment Only Clients, and Clients With Co-occurring Disorders Compare With Respect to Demographic Characteristics and Health Coverage?

Demographic characteristics, including expected treatment reimbursement source, for the sample of MHO clients, STO clients, and clients with co-occurring disorders drawn from the mental health services and substance abuse treatment systems are presented in Exhibit III-1. (Appendix B provides the number of cases for all entries in the exhibit.) Health coverage information is provided only for clients whose index admission was to the substance abuse treatment system, since this information is not reported to the mental health services system.

The distinction between health coverage and reimbursement source is important. In both systems, "reimbursement source" indicates the expected funding source for the current treatment episode. "Health coverage" indicates what, if any, forms of health insurance the client currently has but does not indicate whether insurance will pay for the client's treatment.

Over half of the MHO clients were female (59%), and STO clients were predominantly male (76%). Clients with co-occurring disorders also included more males (58%) than females. Substantially more MHO clients (29%) were age 21 and under than either STO clients (11%) or clients with co-occurring disorders (18%). More clients age 65 years or older appeared in the MHO group (9%), compared to the STO group (1%) and the group comprised of clients with co-occurring disorders (4%).

At least half of the clients in each of the three groups were non-Hispanic whites, but STO clients were more likely to be non-Hispanic black (34%) than were MHO clients (20%) and clients with co-occurring disorders (28%). Slightly more MHO clients (17%) than STO clients (14%) or clients with co-occurring disorders (13%) were Hispanic.

Nearly equal proportions of all three groups had achieved more than a high school education. Slightly more STO clients (45%) and clients with co-occurring disorders (43%) than MHO (37%) clients had achieved a high school diploma or GED. Proportionately more clients in the MHO group had less than a high school education (44%), compared with STO clients (36%) and clients with co-occurring disorders (40%).

While the majority of clients in all three groups were unemployed and not in the labor force at admission (MHO, 70%; STO, 57%; clients with co-occurring disorders, 74%), more STO clients (37%) were employed fulltime at admission than MHO clients (19%) and clients with co-occurring disorders (22%).

	EXHIBIT III-1			
	DEMOGRAPHIC CHARACTERISTICS OF CLIENTS, BY ANALYTIC GROUP			
Demographic Characteristics*	**Total %**	**Mental Health Treatment Only %**	**Substance Abuse Treatment Only %**	**Co-occurring Disorders %**
Gender				
Male	56.0	41.2	75.6	58.1
Age				
Under 21 years	20.6	29.2	11.2	18.2
21-34 years	35.4	26.2	45.7	38.0
35-64 years	38.6	35.0	42.0	40.0
65 years and older	5.4	9.7	1.2	3.8
Race				
Non-Hispanic Black	26.6	20.4	34.1	28.1
Non-Hispanic White	56.6	59.3	50.9	57.1
Hispanic	14.3	16.9	13.4	12.5
Other	2.5	3.4	1.6	2.3
Education				
Less Than High School	40.4	43.9	36.2	40.3
High School Diploma or GED	41.1	36.6	44.5	42.6
More Than High School	18.5	19.5	19.3	17.1
Employment Status at Admission				
Employed Full-time	26.2	21.6	36.6	19.4
Employed Part-time	6.9	7.8	6.0	6.5
Unemployed/Not in Labor Force	68.9	70.6	57.4	74.1
Marital Status at Admission				
Never Married	57.9	54.0	60.2	60.1
Married	20.7	24.5	19.8	17.7
Divorced/Annulled/Separated/ Widowed	21.4	21.5	20.0	22.2
Health Coverage*				
None	**	**	64.4	61.8
Medicaid/Medicare	**	**	12.3	19.3
Blue Cross/Blue Shield/Commercial Insurance or HMO	**	**	23.3	18.8
Reimbursement Source				
None	13.1	6.1	20.9	15.1
Medicaid/Medicare	28.1	36.7	10.4	30.4
Blue Cross/Blue Shield/Commercial Insurance or HMO	17.7	18.1	18.3	16.9
Other Public Funding	12.2	2.9	27.0	12.2
Self-pay	28.9	36.1	23.5	25.4

* The number of cases (n) for all entries in this exhibit is provided in Appendix B.

** Health coverage information is not gathered in the USTF database.

***Health coverage data reported under the Co-occurring Disorders column were for ADADS index cases only.

At the time of their admission, most clients reported that they had never been married (MHO, 54%; clients with co-occurring disorders and STO, 60%). Roughly equal numbers of clients in each group (18% to 25%) reported being currently married.

Health care coverage is reported only for clients whose index admission was obtained from the ADADS system (the USTF data system does not collect health care coverage data). Roughly equal numbers of STO clients (64%) and clients with co-occurring disorders (62%) had no health insurance at the time of admission. Clients with co-occurring disorders were somewhat more likely to have Medicaid/Medicare coverage than were STO clients (19% vs. 12%).

Although 23 percent of STO clients and 19 percent of clients with co-occurring disorders reported private insurance coverage, only about 18 and 17 percent, respectively, expected private insurance to pay for the cost of treatment. Among the population covered by Medicaid/Medicare, Medicaid/Medicare was less likely to be expected to reimburse the cost of STO services and more likely to be expected to pay for services for those with co-occurring disorders. Thus, while only 19 percent of clients with co-occurring disorders had Medicaid/Medicare coverage, Medicaid/Medicare was listed as the expected reimbursement source for 30 percent. Only 10 percent of STO clients, however, were expected to have their treatment covered by this source. Of all groups, clients in the STO group were most likely to have no identified reimbursement source at admission (21%) or to be eligible for other public funding (27%).

2.3   How Do the Three Groups of Clients Compare With Respect to Service Utilization Patterns?

As shown in Exhibit III-2, outpatient treatment was the most-reported treatment setting at admission for the MHO and STO clients (56% and 53%, respectively). (Appendix C provides the number of cases for each entry in the exhibit.) Clients with co-occurring disorders were most frequently treated in screening centers (36%), followed closely by outpatient settings (34%). In general, STO clients appeared to receive more acute and intensive services in hospitals (17%), residential treatment settings (17%), and intensive outpatient providers (12%) than their counterparts in the MHO group and the co-occurring disorders group.

Treatment completion rates also varied substantially by treatment group. While the majority of clients in each group completed their treatment services, MHO clients (83%) and clients with co-occurring disorders (76%) completed their treatment more frequently than did STO clients (53%). STO clients dropped out of treatment at a rate of 35 percent, while 16 percent of MHO clients and 15 percent of clients with co-occurring disorders dropped out. In the

STO population, 8 percent of clients were administratively discharged from treatment, an option that was unavailable in the MHO system.

EXHIBIT III-2 **SERVICE UTILIZATION,** **BY TREATMENT GROUP**			
Client Characteristics*	**Mental Health Treatment Only (MHO) %**	**Substance Abuse Treatment Only (STO) %**	**Co-occurring Disorders %**
Index Treatment Setting at Admission			
Hospital	2.7	17.2	11.2
Residential	0.2	17.3	8.2
Intensive Outpatient/Partial Care	2.5	11.6	5.5
Outpatient/Methadone	55.8	52.9	33.9
Screening Center/Emergency Room	35.1	0.0	36.5
Other	3.8	1.2	4.6
Reason for Index Discharge			
Completed Treatment	83.2	52.9	76.2
Dropped Out of Treatment	16.4	34.7	17.4
Administrative/Therapeutic Discharge	0.0	7.8	3.1
Deceased	0.4	0.3	0.3
Other	0.0	4.4	2.1
Total Units of Index Service-Outpatient (Median)	4.0	12.0	5.0
One or More Ancillary Services Recommended	33.6	17.6	23.6
Length of Index Stay, in Days (Median)			
Hospital	18.0	3.0	4.0
Residential	255.0	21.0	20.0
Intensive Outpatient/Partial Care	181.0	70.0	78.0
Outpatient/Methadone	120.0	119.0	91.0
Screening Center/Emergency Room	0.0	**	0.0
Other	153.0	8.0	98.0
Number of Subsequent Admissions (2 years post index)			
No Subsequent Admission	95.4	93.2	49.5
1 Subsequent Admission	3.6	5.1	26.1
2 or More Subsequent Admissions	1.0	1.7	24.4

* The number of cases (n) used in this table is provided in Appendix C.
** Not applicable

Clients in the STO group received substantially more units of outpatient service than either MHO clients or clients with co-occurring disorders, reflecting, in part, STO clients' greater use of intensive outpatient/partial care services. STO clients were the least likely (18%) and MHO clients the most likely (34%) of all three groups to receive any ancillary services.

STO clients entered more intensive treatment settings than did the other groups, but MHO clients remained in all treatment settings substantially longer; STO clients and clients with co-occurring disorders typically spent less than a month in residential treatment, while the median length of stay for MHO clients was 255 days. Similarly, MHO clients spent a median of 18 days in hospital settings, compared to medians of 3 and 4 days for the STO clients and clients with co-occurring disorders, respectively. Further, MHO clients in intensive outpatient/partial care treatment reported lengths of stay more than double those of STO clients and clients with co-occurring disorders. Less-pronounced differences in lengths of stay were found for outpatient services, however (120 days for MHO clients, 119 days for STO, and 91 days for clients with co-occurring disorders).

As might be expected, when looking at subsequent admissions by treatment group, the clients with co-occurring disorders were far more likely to have a subsequent treatment admission within two years of their index admission than were MHO and STO clients. Fully half of the clients with co-occurring disorders were readmitted to treatment within two years, compared to only seven percent of STO clients and five percent of MHO clients. Clients with co-occurring disorders had a mean of 1.14 re-admissions in the subsequent 24 months, compared to means of .09 and .06 for STO and MHO clients, respectively. Moreover, clients with co-occurring disorders accounted for 92 percent of all re-admissions by the sample as a whole in the 24 months following the index admission.

Reimbursement source also appears to have had some bearing on re-admissions (Exhibit III-3). In all treatment groups, self-paying clients and clients with private insurance were consistently less likely to be readmitted to services than were clients with any other reimbursement source. Clients who were treated through public funds, Medicare, or Medicaid or who had no identified reimbursement source (and were, therefore, more likely to be financed through some public source), were in all cases more likely to be readmitted to treatment.

EXHIBIT III-3 **PERCENT OF CLIENTS WITH AT LEAST ONE SUBSEQUENT RE-ADMISSION,** **BY REIMBURSEMENT SOURCE AND TREATMENT GROUP**									
	Mental Health Treatment Only (MHO)			**Substance Abuse Treatment Only (STO)**			**Co-occurring Disorders**		
Client Characteristics	**Total N**	**Readmitted**	**%**	**Total N**	**Readmitted**	**%**	**Total N**	**Readmitted**	**%**
None	7,747	369	4.8	16,761	1,131	6.8	20,513	10,575	51.6
Medicaid/Medicare	46,448	2,632	5.7	8,352	793	9.5	41,499	23,037	55.5
Private (e.g., Blue Cross/Blue Shield, HMO)	22,925	966	4.2	14,675	801	5.5	23,002	11,179	48.6
Other Public	3,681	206	5.6	21,687	1,605	7.4	16,634	8,927	53.7
Self/Relative Pay	45,721	1,749	3.8	18,907	999	5.3	34,685	14,983	43.2
Total	126,522	5,922	4.7	80,382	5,329	6.6	136,333	68,701	50.4

Comparing re-admission rates by treatment setting (Exhibit III-4), the highest proportion of re-admissions for both STO clients and clients with co-occurring disorders occurred when the index admission was to a hospital setting (8% and 64%, respectively). With respect to the other types of treatment, only 52 percent of clients with co-occurring disorders seen in screening centers had a subsequent treatment admission, a somewhat surprising finding since the primary function of these centers is to assess and refer clients to appropriate care.

|	EXHIBIT III-4 PERCENT OF CLIENTS WITH AT LEAST ONE SUBSEQUENT RE-ADMISSION, BY TREATMENT SETTING OF INDEX ADMISSION								
	Mental Health Treatment Only (MHO)			Substance Abuse Treatment Only (STO)			Co-occurring Disorders		
Treatment Type/Setting	Total N	Readmitted	%	Total N	Readmitted	%	Total N	Readmitted	%
Hospital	4,003	200	5.0	15,267	1,230	8.1	18,393	11,747	63.9
Residential	248	15	6.1	15,381	1,006	6.5	13,576	7,567	55.7
Intensive Outpatient/Partial care	3,661	223	6.1	10,298	679	6.6	9,096	4,623	50.8
Outpatient/Methadone	83,168	3,875	4.7	47,055	3,076	6.5	55,908	24,731	44.2
Screening Center/Emergency Room	52,387	2,259	4.3	*	0	*	60,173	31,030	51.6
Other	5,721	257	4.5	1,033	57	5.5	7,557	3,507	46.4
Total	149,188	6,829	4.6	89,034	6,048	6.8	164,703	83,205	50.5

* Not applicable

2.4   To What Extent Are Co-occurring Disorders Appropriately Identified in Each Treatment System?

More than half of clients with a co-occurring disorder (53%) were not identified as having a co-occurring disorder in their treatment records (Exhibit III-5). Approximately 18 percent were identified as having a co-occurring disorder and received treatment in both systems and 29 percent were identified and received treatment in only one system. In other words, less than half (38%) of clients identified as having a co-occurring disorder in their treatment records received treatment services in both the mental health and addiction treatment systems.

EXHIBIT III-5
PERCENT OF CLIENTS WITH CO-OCCURRING DISORDERS,
BY PROBLEM IDENTIFICATION AND TREATMENT STATUS

- ■ Co-occurring Disorders record and treatment in both systems
- ■ Co-occurring Disorders record and treatment in only one system
- □ No Co-occurring Disorders identified, but treatment in both systems
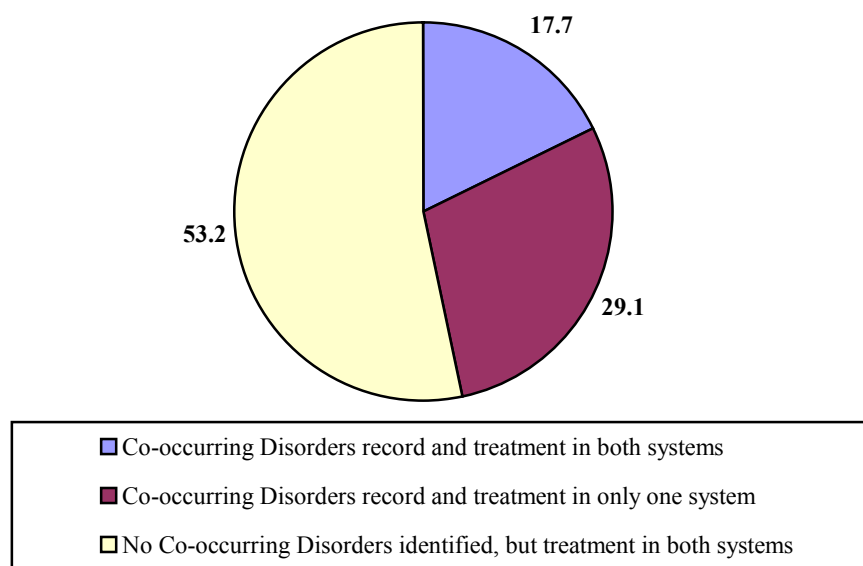
Differences in the extent to which clients with co-occurring disorders were appropriately identified were found across treatment settings (Exhibit III-6). Screening centers/emergency rooms (57%) and case management/liaison services (50%) were most likely to identify such clients, while hospitals (31%) and residential treatment providers (32%) were least likely to identify them.

Comparing identification rates by treatment setting and mental health service or substance abuse service type (Exhibit III-7), the mental health services system was found to identify substantially more clients with co-occurring disorders (57%) than the substance abuse treatment system (23%). By treatment setting, hospitals exhibited the greatest disparity in identification rates, identifying only 12 percent of clients with co-occurring disorders seeking substance abuse services but 57 percent of clients with co-occurring disorders seeking mental health services. In contrast, case management/liaison services identified roughly equal proportions of clients with co-occurring disorders, regardless of the type of service they were seeking.

EXHIBIT III-6
IDENTIFICATION OF CO-OCCURRING DISORDERS STATUS, BY SETTING AT ADMISSION
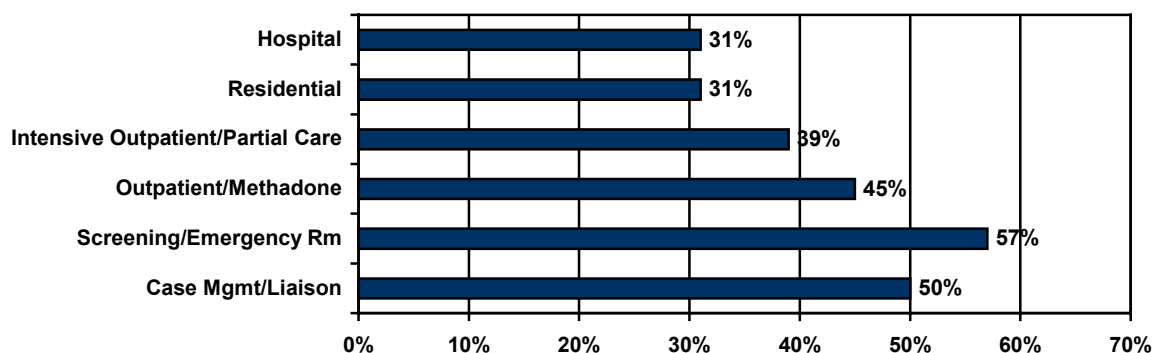
EXHIBIT III-7
IDENTIFICATION OF CO-OCCURRING DISORDERS STATUS, BY TREATMENT SETTING* AND SERVICE TYPE
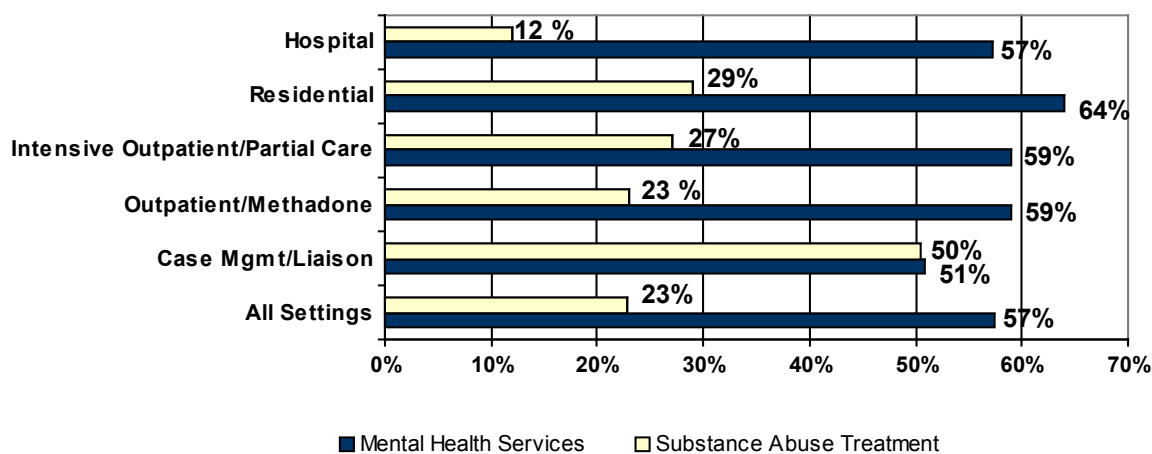
■ Mental Health Services ☐ Substance Abuse Treatment

* Screening centers were omitted from this exhibit because there is no comparable setting in the substance abuse treatment system.

2.5 To What Extent Are Clients with Co-occurring Disorders Referred Across Treatment Systems for Appropriate Care, and What Proportion of Such Referrals Are Completed?

Of clients with co-occurring disorders analyzed (164,703), only 13,617 (8.3%) had a record on their discharge form that a referral was made to the other treatment system. The lack of cross-system referrals is explained in part by the initial failure of providers to identify the client as having co-occurring disorders, but this referral rate is still surprisingly low, given that 47 percent of the co-occurring disorder sample was identified as such. For this reason, referral patterns were examined within the group of clients identified as having co-occurring disorders to determine whether there were differences in referral rates by treatment setting and/or service type (mental health services vs. substance abuse treatment).

Only 18 percent of clients identified in their records as having a co-occurring disorder problem were referred to the other system for treatment (Exhibit III-8). There were substantial differences across types of treatment in the proportion referred, with case management/liaison/outreach services referring the lowest proportion of clients (11%) and residential treatment settings referring the highest (60%). Outpatient treatment providers, screening centers, and hospitals also referred low proportions of clients with co-occurring disorders (13% of outpatients, 16% of screening center clients, and 17% of hospital patients) to the other system. The low proportion of screening center referrals is especially notable, since the primary function of the screening centers is to conduct assessment and treatment referral.

Comparing referral rates by treatment system, the data show a substantial disparity between the mental health services and substance abuse treatment systems in the extent to which clients with co-occurring disorders are referred across systems for care. Although the substance abuse treatment system was notably less successful than the mental health services system in identifying clients with co-occurring disorders, it was substantially more likely to refer clients for mental health services once those clients were identified (Exhibit III-9). Close to 57 percent of clients in substance abuse treatment identified as having co-occurring disorders were referred to the mental health services system, while only 11 percent of clients receiving mental health services identified as having co-occurring disorders were referred to the substance abuse treatment system. This pattern was consistent across all types of services examined, although the residential mental health providers were somewhat more likely than other mental health providers to refer clients identified as having co-occurring disorders for substance abuse treatment. Residential providers referred 23 percent of such clients, compared to 6 percent referred by outpatient providers, 5 percent by hospitals, 3 percent by intensive outpatient/partial care providers, and 2 percent by case management/liaison services. Among the substance abuse

EXHIBIT III-8
PROPORTION OF CLIENTS IDENTIFIED AS HAVING CO-OCCURRING DISORDERS WHO WERE REFERRED TO THE OTHER TREATMENT SYSTEM AT TIME OF DISCHARGE, BY TREATMENT SETTING AT ADMISSION

Hospital: 17%
Residential: 60%
Intensive Outpatient/Partial Care: 25%
Outpatient/Methadone: 13%
Screening/Emergency: 16%
Case Mgmt/Liaison: 11%
All Settings: 18%
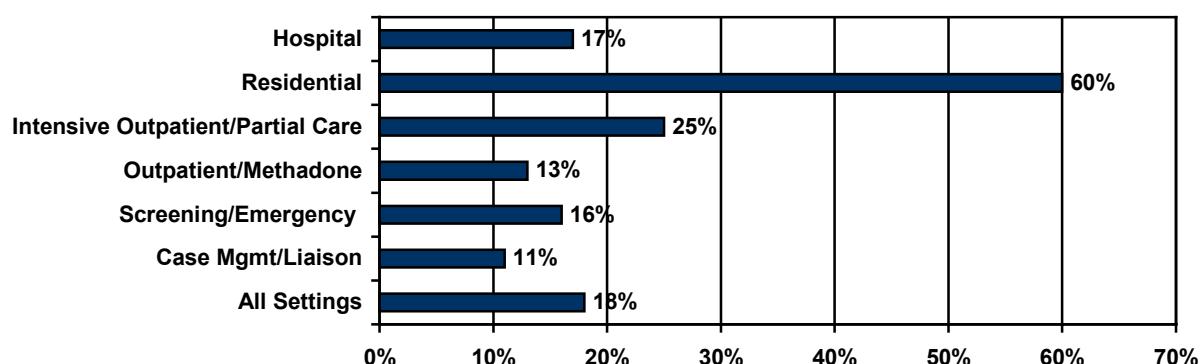
EXHIBIT III-9
PROPORTION OF CLIENTS IDENTIFIED AS HAVING CO-OCCURRING DISORDERS WHO WERE REFERRED TO THE OTHER TREATMENT SYSTEM AT TIME OF DISCHARGE, BY TREATMENT SETTING* AND SERVICE TYPE

Hospital: 59% / 5%
Residential: 66% / 23%
Intensive Outpatient/Partial Care: 60% / 3%
Outpatient/Methadone: 45% / 5%
Case Mgmt/Liaison: 86% / 2%
All Settings: 57% / 11%

☐ Referred by Substance Abuse Treatment System
■ Referred by Mental Health Services System
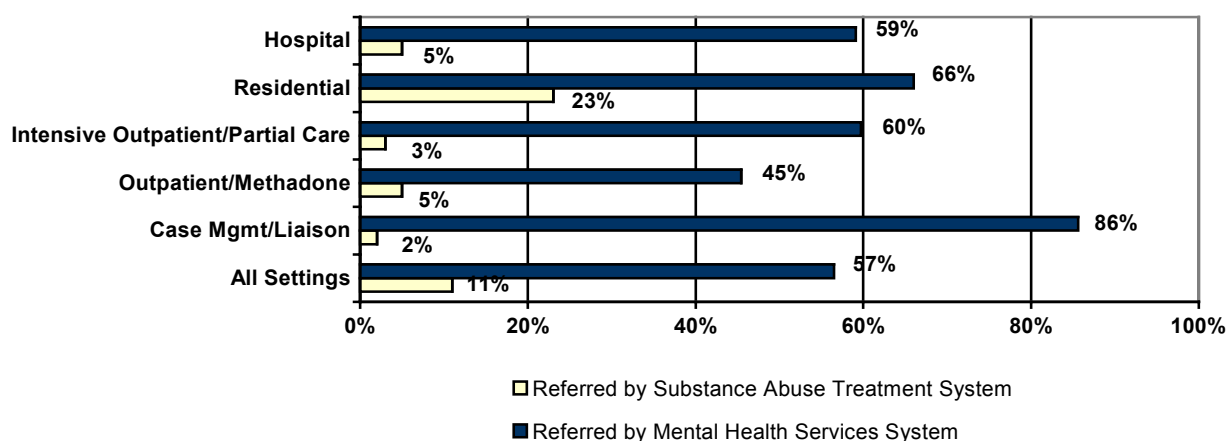
*Screening centers were omitted from this exhibit because there is no comparable setting in the substance abuse treatment system.

treatment providers, outpatient (including methadone) providers were somewhat less likely than other providers to refer clients with co-occurring disorders for mental health services.

The extent to which cross-system referrals were implemented were explored by investigating how often clients with co-occurring disorders who had been referred for treatment across systems had an admission to the other system within 6 months of their index discharge date.[1] The data show that only seven percent of referred clients with co-occurring disorders appear in the other system within 6 months of discharge. Comparison of re-admissions by treatment systems reveals that 13.5 percent of clients with co-occurring disorders referred by the mental health services system were re-admitted to substance abuse treatment within 6 months, and no clients with co-occurring disorders referred by substance abuse treatment providers entered the mental health services system within 6 months. Among the several explanatory factors for this may be that clients with co-occurring disorders referred from substance abuse treatment to mental health services may have sought treatment from independent practitioners who do not report to the USTF. It is also possible that these clients were referred to special services for clients with co-occurring disorders that report only to the ADADS system. If this was the case, such clients would not appear as an admission in the USTF. Clearly, factors that affect successful cross-system referrals require further examination.

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[1] The 6-month window for completing a referral was arbitrarily selected in order to allow the greatest opportunity to locate referral-related re-admissions. Since it is likely that most referrals would be completed within 30 days, however, many of the identified admissions may not have been prompted by the initial referrral.

IV. SUMMARY AND IMPLICATIONS

IV. SUMMARY AND IMPLICATIONS

This chapter summarizes the findings of the analysis and describes their implications for treatment providers, policymakers, and researchers/evaluators.

1. SUMMARY OF FINDINGS

The findings of the analysis suggest that over one-third (41%) of clients seen in the mental health services and substance abuse treatment systems have a co-occurring disorder. More than half (53%) of clients with co-occurring disorders in the present analysis, however, had no indication on their USTF or ADADS records that a co-occurring disorder existed; they were identified only because they had admissions to both systems within the same 12-month period.

The findings also reveal that mental health providers were more successful than substance abuse treatment providers in identifying clients with co-occurring disorders. More than half (57%) of clients with co-occurring disorders in the mental health services system were appropriately identified, compared to only 23 percent of such clients in the substance abuse treatment system. By treatment type, screening centers identified the highest proportion of clients with co-occurring disorders (57%), and hospitals the lowest (31%).

The failure to identify clients with co-occurring disorders led, in part, to few such clients being referred for services in the other system; only eight percent of all clients with co-occurring disorders received a cross-system referral. Even when clients were identified, however, referral rates were low, with only 18 percent of clients identified as having co-occurring disorders being referred for services in the other system.

Again, there was a substantial difference across systems in the extent to which clients with co-occurring disorders were referred for alternate care. Although the substance abuse treatment system was notably less successful than the mental health services system in identifying such clients, it was more likely to refer clients for mental health services once those clients were identified; substance abuse treatment providers referred 57 percent of all identified clients with co-occurring disorders for mental health services, while mental health providers referred only 11 percent of such clients for substance abuse treatment. This finding is consistent with previous research suggesting that persons with co-occurring disorders are more likely to access mental health than substance abuse treatment services, and that few of those who receive mental health services will receive supplemental substance abuse treatment (Watkins et al., 2000).

Particularly troubling was the low rate of referral to substance abuse treatment by mental health screening centers. Although screening centers identified nearly 60 percent of all clients with co-occurring disorders admitted, they referred only 16 percent of those identified for substance abuse treatment. This is surprising because the primary functions of the screening centers are assessment and treatment referral.

Notable differences in service utilization among clients with co-occurring disorders, MHO and STO were also found. Contrary to expectations, the clients with co-occurring disorders did not receive more intensive services or have longer lengths of stay than clients in the other two groups. Of the three groups, the STO clients were the most likely to enter intensive forms of treatment (including hospitals, residential treatment, and intensive outpatient treatment), while the MHO clients had the longest lengths of stay, particularly in intensive treatment. Clients with co-occurring disorders, however, were more likely than clients in the other groups to be readmitted to treatment during the 24 months following their index admission; 50 percent of such clients had at least one subsequent admission, compared to 7 percent of STO clients and 5 percent of MHO clients. When the total number of re-admissions by all clients in both systems was examined, it was found that clients with co-occurring disorders accounted for 92 percent of all subsequent re-admissions over the 24 months following the index admission.

2. IMPLICATIONS FOR TREATMENT PROVIDERS, POLICYMAKERS, AND RESEARCHERS/EVALUATORS

A number of implications emerged from the present findings. The substantial numbers of clients identified in this analysis having co-occurring disorders argues strongly for developing strategies to manage them better, through more effective integration of services in each treatment system and/or through the expansion of specialized treatment services having expertise in the management of the dually diagnosed client. (Despite the considerable size of this population, there is currently a paucity of specialized treatment services in New Jersey for clients with co-occurring disorders.)

2.1 Implications for Treatment Providers

A number of steps could be taken to promote better system integration to address the problem of co-occurring disorders. The data for New Jersey suggest, for example, that low rates of identification of clients with co-occurring disorders may significantly impede these clients' access to appropriate services. Other states, therefore, may benefit from training providers in both systems to improve their diagnostic capabilities and from implementing statewide standardization of tools for assessing co-occurring disorders. In addition, benefits could be

derived from providing providers in both systems with additional education and training in models of intervention and clinical materials for co-occurring disorders.

2.2   Implications for Policymakers

Problems existed in the extent to which clients identified as having co-occurring disorders were referred to appropriate services, especially in the mental health services system, which referred only 11 percent of such clients to substance abuse treatment. The low referral of clients from mental health services to substance abuse treatment may have resulted from a lack of available substance abuse treatment facilities, with consequent long waiting lists for clients seeking treatment admission; a perception by mental health providers that available substance abuse treatment interventions were incompatible with the clinical needs of the client; or a lack of emergency services to handle clients in crisis. For example, anecdotal data from screening center workers indicate that when clients with co-occurring disorders appear for crisis services during off-hours, screeners try to get them into a detoxification facility, or an overnight hold, or alternatively, and more often, they return the person to the street with a list of numbers to call in the morning. If the person is a danger to self or others, he/she will automatically be admitted to any available mental health treatment facility, typically another "floor" in the hospital of which the screening center may be a part. Since this analysis showed hospitals to have particularly low referral rates of substance abuse clients, it is likely that few such clients make it to appropriate treatment.

One possible solution for clients with co-occurring disorders who are in crisis would be to expand the availability of facilities able to handle short-term stays by clients in crisis and to staff them with experts in the clinical needs of clients with co-occurring disorders in an effort to facilitate the transition of such clients to appropriate treatment. Another barrier frequently mentioned by New Jersey mental health screening centers is a lack of transportation, which often prevents clients with co-occurring disorders who are referred to treatment from getting to the treatment center for the intake interview. A publicly funded shuttle service could address this problem.

Strategies have already been implemented in the New Jersey mental health services system to enhance the identification and referral of clients with co-occurring disorders through the institution of a demonstration initiative in the mental health screening centers, jointly managed by New Jersey's Divisions of Mental Health Services (DMHS) and Addiction Services (DAS). This initiative is designed to assist mental health screeners in identifying clients with co-occurring disorders and facilitating their transition into substance abuse treatment. Similar cooperative efforts might be instituted in the substance abuse treatment system to enhance

problem identification and promote cross-system referrals. As part of their joint efforts in this regard, New Jersey's DMHS and DAS might assume greater responsibility, through their grants monitoring and quality improvement processes, to ensure that their grantees are appropriately identifying and referring clients with co-occurring disorders.

The findings of the analysis also suggest that, once in treatment, clients with co-occurring disorders may not be receiving appropriate services: such clients enter less-intensive forms of treatment for shorter periods of time than clients who do not have co-occurring disorders. If this interpretation is correct, the lack of sufficiently intense services may, in turn, have contributed to the significantly high re-admission rates these clients experienced. Improving the appropriateness of services received by clients with co-occurring disorders will depend in part on the successful accomplishment of the policy goals already suggested, namely, giving providers training in appropriate screening and referral practices, improving the accessibility of services, and instituting more responsive crisis management services. Accomplishing these goals may require expanding state and federal funding for residential and intensive outpatient treatment and/or making clients with co-occurring disorders a priority population in accessing the services that are currently available. This analysis did not estimate the additional financial burden placed on both treatment systems by the high re-admission rate of clients with co-occurring disorders, but the fact that such clients account for 92 percent of all re-admissions to both systems suggests that the cost is enormous. The expenditure of additional treatment dollars to provide more appropriate services for such clients may provide a sizeable cost-saving in the future by reducing the number of re-admissions these clients experience.

2.3   Implications for Researchers/Evaluators

An adequate understanding of the multiplicity of factors affecting the treatment utilization patterns of clients with co-occurring disorders requires more data collection and analysis. Specifically, the findings of the present analysis could be augmented by a more precise identification of the clinical profiles of clients with co-occurring disorders and an examination of their relationship to treatment utilization, cross-system referrals, and re-admissions.

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APPENDIX A
CODES FOR RE-ADMISSION

APPENDIX A
CODES FOR RE-ADMISSION

The data preparation included the use of SAS and FoxPro software programs. FoxPro was used to create the unique index admissions files from USTF and ADADS files. The 12-character unique identification variable contains the first and third letters of the first name, the first and third letters of the last name, gender, birth year, birth month and birthday. To identify unique records, an 8-character admission date (YYYYMMDD) was also used in addition to the unique identification code. Records with no date of birth, missing name initials or clients in ADADS who were not primary substance abuse clients were deleted from the index admission data set.

FoxPro's random number generator function (rand) was run on the admissions data set to select one admission per client (see code below). If the admission count was "one," that record was selected with certainty. For other clients, one of the total MH and AD admissions was selected at random. The randomly selected admission record is called the index admission. The data set that contains the index admissions had 404,684 records of which 264,828 were mental health admissions and 139,856 were substance abuse admissions. The index data set also contains the source of admission (mental health or substance abuse) to help track origins of index admissions.

The codes used for to select index admissions are:

```
close all
select 1
USE c:\adads_0602\mhad47_c.dbf  order clientid
do while not eof()
store adm_cnt to j
store 0 to hit
store (1 + int(adm_cnt*rand())) to hit
if hit > adm_cnt
  store adm_cnt to hit
endif
if adm_cnt=1
  store adm_cnt to hit
endif
do while j>0
        if hit=j
```

```
 replace indx_adm with 1
endif
store j-1 to j
skip
enddo
enddo
```

After the index admissions were selected data processing proceeded in the SAS software program. All variable labels, formatting, data matching and analyses were made in SAS.

APPENDIX B
NUMBER OF CLIENTS USED IN THE CALCULATION OF PERCENTAGES
IN EXHIBIT III-1

APPENDIX B
NUMBER OF CLIENTS USED IN THE CALCULATION OF PERCENTAGES IN EXHIBIT III-1

EXHIBIT B-1				
NUMBER OF CLIENTS, BY ANALYTIC GROUP				
Demographic Characteristics	**Total (n)**	**Mental Health Treatment Only (n)**	**Substance Abuse Treatment Only (n)**	**Co-occurring Disorders (n)**
Gender	403,232	149,702	88,787	164,743
Age	396,601	144,362	88,634	163,605
Race	398,011	146,909	88,721	162,381
Education	336,465	113,667	88,445	134,353
Employment status at admission	377,343	136,667	88,087	152,589
Marital status at admission	376,211	135,928	88,504	151,779
Health coverage	129,831	*	82,270	47,561
Reimbursement source	343,237	126,522	80,382	136,333

* Not applicable

APPENDIX C
NUMBER OF CLIENTS USED IN THE CALCULATION OF PERCENTAGES
IN EXHIBIT III-2

APPENDIX C
NUMBER OF CLIENTS USED IN THE CALCULATION OF PERCENTAGES IN EXHIBIT III-2

EXHIBIT C-1			
SERVICE UTILIZATION, BY TREATMENT GROUP			
Client Characteristics*	Mental Health Treatment Only (MHO) (n)	Addiction Treatment Only (STO) (n)	Co-occurring Disorders (n)
Index Treatment Setting at Admission	149,188	89,034	164,703
Reason for Index Discharge	118,792	72,869	142,133
Total Units of Index Service - Outpatient (Median)	150,157	88,306	164,263
One or More Ancillary Services Needed	150,445	89,040	165,199
Length of Index Stay in Days (Median)			
Hospital	3,032	13,861	16,098
Residential	125	13,421	13,286
Intensive Outpatient/Partial Care	2,314	7,793	6987
Outpatient/Methadone	58,563	38,095	43543
Screening Center/Emergency Room	52,374	*	60,166
Other	2,947	643	5222
Number of Subsequent Admissions (2 years post index)	150,445	89,040	165,199

* Not applicable